



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/688,879

10/21/2003

Tsuyoshi Kindo

2003-1497A

2775

513

7590

08/21/2006

WENDEROTH, LIND & PONACK, L.L.P.

2033 K STREET N. W.

SUITE 800

WASHINGTON, DC 20006-1021

EXAMINER

AMRANY, ADI

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/688,879		KINDO ET AL.	
	Examiner		Art Unit	
	Adi Amrany		2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.


BURTON S. MULLINS
PRIMARY EXAMINER

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed July 19, 2006 have been fully considered but they are not persuasive. Kirkhart (US 6,055,479) discloses the limitations recited in the independent claims. Kirkhart discloses a battery with low-power mode and full-power mode for providing power to a computer. The low-power mode is utilized when the car ignition is off, and a detection circuit switches the battery to a full-power mode when the car ignition is switched on. Although Kirkhart discloses two power modes for a single battery, the reference does not expressly disclose two power modes for a dual battery system.

Amamo (US 6,806,588) discloses a dual battery vehicle system where the discharge of the batteries is controlled based on a determination of whether the vehicle ignition is off or on. Amamo further discloses battery capacity measuring means for determining the charge left in each battery

The references are combined under 35 U.S.C.103(a): Kirkhart discloses a battery control section for booting up a computer by starting a power supply in a low-power mode; Amamo discloses a battery control section comprising a low-power mode. It would be obvious to a person skilled in the art that the low and full power modes of the Kirkhart battery are analogous to the main and auxiliary batteries disclosed in Amamo. Amamo discloses that the main battery recharges the auxiliary battery and Kirkhart discloses the loads to be powered by the batteries.

Kirkhart further teaches stopping a power supply from a first source (auxiliary battery) and starting a power supply from a second source (main battery) when the ignition key detection section detects the ignition key is switched from OFF to ON by switching between low-power (first source) and full-power (second source) battery modes.

Applicants did not address the use or motivation of combining the Gillespie or Hirano references. Therefore, the rejections of claims 1-9 under 35 U.S.C. 103(a) made in the non-final rejection are made final, as discussed below.

The objections made to the claims in the non-final rejection are withdrawn. However, Examiner maintains the assertion that claims 1 and 5-6 are identical to claims 7-9, respectively, except for minor differences in the wording, which are not believed not affect the scope of the claims. This assertion is not meant to challenge applicants' right to draft the claims as they see fit, but to state the basis for rejecting claims 7-9 on the same grounds as claims 1 and 5-6, respectively.

Lastly, new claims 10-12 are identical to claims 2-4. Since independent claims 1 and 7 are identical in scope, the rejection of claims 2-4 will be applied to claims 10-12.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkhart (US 6,059,843), in view of Amano (US 6,806,588).

With respect to claim 1, Kirkhart discloses a power control unit (figure 2, item 50; column 3, lines 17-21 and 32-38) for controlling a power supply of a computer (figure 2, item 22; column 2, lines 59-67), which operates by obtaining a power supply from a main power source during normal operation (figure 2, item 48; column 3, lines 14-17), in a vehicle (figure 1) including an unlocking detecting section (column 4, lines 4-9; column 5, lines 26-30) for detecting whether or not a door of the vehicle is unlocked, an ignition key detecting section (column 3, lines 49-62, 63-66) for detecting whether or not an ignition key is switched from OFF to ON, and a battery, said power control unit comprising:

A battery control section (column 4, lines 31-38) for booting up the computer by starting a power supply from the auxiliary battery to the computer when the unlocking detecting section detects that the door is unlocked;

and a power source switching section (figure 4, step 96; column 5, lines 3-7 and 43-52) for stopping a power supply from the battery to the computer and starting a power supply from the main power source when the ignition key detecting section detects that the ignition key is switched from OFF to ON during the power supply from the battery.

Kirkhart discloses a battery control section that configures the main battery of the vehicle to switch to low-power mode to boot-up the computer. When the detection

Art Unit: 2836

circuitry determines that the ignition is ON, the main battery and other components of the vehicle are switched to full power mode.

Kirkhart does not expressly disclose an auxiliary battery for supplying power to the computer or that the power source switching section stops a power supply from the auxiliary battery.

Amano discloses a power control for a vehicle comprising a main battery and an auxiliary battery (figure 1, item 2; column 3, lines 23-27), which can be activated while the vehicle's ignition is off. Amano further discloses an auxiliary battery control section (figure 1, item 24; column 3, lines 47-58) for discharging power from the auxiliary battery depending on the size of the loads and the power remaining in the battery.

Kirkhart and Amano are analogous because they are from the same field of endeavor, namely power control units for vehicle power supplies.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to replace the low-power and high-power modes of the vehicle's main battery disclosed in Kirkhart, with the two battery system and auxiliary battery control section disclosed in Amano.

The motivation for doing so would have been to supply power from the auxiliary battery while the vehicle is off in order to maintain the main battery at a sufficient level to start the engine.

With respect to claim 2, Kirkhart and Amano disclose the power control unit according to claim 1. Amano further discloses the auxiliary battery control section is operable to monitor an amount of power remaining in the auxiliary battery (figure 1, item

Art Unit: 2836

23, column 3, lines 48-49), and to boot up the computer by starting a power supply from the auxiliary battery to the computer only when the unlocking detecting section detects that the door is unlocked and the amount of power remaining in the auxiliary battery is equal to or greater than a predetermined value (figure 2, steps 170, 180 and 190; column 5, lines 41-67; column 6, lines 40-64).

Amano discloses a power control unit that detects the power remaining in the main and auxiliary batteries while the engine is off. Amano recites that loads may be shut off in order of priority as the batter power level decreases (column 6, lines 55-64). This is analogous to not turning on a load if there is insufficient power in the battery to activate the load.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the power control, unlock detection, and ignition detection disclosed in Kirkhart with the battery control section monitors disclosed in Amano.

The motivation for doing so would have been to provide a control system for a vehicle power supply, which can operate the load of a low voltage system while an ignition switch remains off (column 1, lines 53-57).

With respect to claim 5, Kirkhart discloses a power control unit (figure 2, item 50; column 3, lines 17-21, 32-38) for controlling a power supply of a computer (figure 2, item 22; column 2, lines 59-67), which operates by obtaining a power supply from a main power source during normal operation (figure 2, item 48; column 3, lines 14-17), in a vehicle (figure 1) including an unlocking/locking detecting section (column 4, lines 4-9;

Art Unit: 2836

column 5, lines 26-30) for detecting whether or not a door of a vehicle is unlocked/locked, an ignition key detecting section (column 3, lines 49-66) for detecting whether or not an ignition key is switched from OFF to ON, and a battery, said power control unit comprising:

a time measuring section (column 5, lines 52-57) for measuring an amount of time from when the unlocking/locking detecting section detects that the door is unlocked;

a battery control section (column 4, lines 31-38) for booting up the computer by starting a power supply from the battery to the computer if the unlocking/locking detecting section does not detect that the door of the vehicle is locked while the time measuring section measures the predetermined time;

and a power source switching section (figure 4, step 96; column 5, lines 3-7 and 43-52) for stopping a power supply from the battery to the computer and starting a power supply from the main power source to the computer when the ignition key detecting section detects that the ignition key is switched from OFF to ON during the power supply from the battery.

Kirkhart does not expressly disclose the auxiliary battery for supplying power to the computer and the auxiliary battery control section. Amano discloses an auxiliary battery and an auxiliary battery control section, as discussed above. The motivation for combining the references is provided above in the rejection of claim 1.

With respect to claim 6, Kirkhart discloses a power control unit (figure 2, item 50; column 3, lines 17-21, 32-38) for controlling a power supply of a computer (figure 2,

Art Unit: 2836

item 22; column 2, lines 59-67), which operates by obtaining a power supply from a main power source during normal operation (figure 2, item 48; column 3, lines 14-17), in a vehicle (figure 1) including an unlocking detecting section (column 4, lines 4-9; column 5, lines 26-30) for detecting whether or not a door of the vehicle is unlocked, an ignition key detecting section (column 3, lines 49-66) for detecting whether or not an ignition key is switched from OFF to ON, a battery for supplying power to the computer, and a user detecting section (column 4, lines 15-30) for detecting whether or not a user gets in the vehicle, said power control unit comprising:

a battery control section (column 4, lines 31-38) for booting up the computer by starting the power supply from the battery installed in the vehicle to the computer when the user detecting section detects that the user gets in the vehicle after the unlocking detecting section detects that the door is unlocked;

and a power source switching section (figure 4, step 96; column 5, lines 3-7 and 43-52) for stopping a power supply from the battery to the computer and starting a power supply to the computer from the main power source when the ignition key detecting section detects that the ignition key is switched from OFF to ON during the power supply from the battery.

The auxiliary battery and the auxiliary battery control section are obvious in view of the disclosure of Amano, as discussed above.

Claims 7-9 are rejected as being obvious over Kirkhart, in view of Amano. Claims 7-9 do not add new limitations not previously rejected in claims 1, 5, and 6, respectively, as discussed above.

With respect to new claim 10, Kirkhart and Amano disclose the apparatus according to claim 7, and Amano further discloses the auxiliary battery control section is operable to monitor an amount of power remaining in the auxiliary battery (figure 1, item 23, column 3, lines 48-49), and to boot up the computer by starting a power supply from the auxiliary battery to the computer only when the unlocking detecting section detects that the door is unlocked and the amount of power remaining in the auxiliary battery is equal to or greater than a predetermined value (figure 2, steps 170, 180 and 190; column 5, lines 41-67; column 6, lines 40-64).

4. Claim 3 and new claim 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkhart, in view of Amano, in further view of Gillespie (US 6,393,573).

Kirkhart and Amano disclose the power control unit according to claims 1 and 7, but neither references expressly discloses a state determining section for determining a start state and end state of the computer, wherein the auxiliary battery control section is operable to boot up the computer by starting a power supply from the auxiliary battery to the computer only when the unlocking detecting section detects that the door is unlocked and the state determining section determines that the computer is in a state in which it cannot be booted up unless an initial boot-up is completed.

Gillespie discloses a power control unit for a multimedia system within a vehicle that performs a system boot-up only if it determines that the system requires a boot-up. The multimedia system comprises different start and end states (figure 2). The Gillespie power control unit provides for different methods to boot-up the multimedia

Art Unit: 2836

system depending on the state of the system (column 4, line 13 to column 5, line 15).

The system can be in several states, including: no power, sleep, power save, standby, standby+, and full power. Gillespie discloses that the time to boot-up the system from a no power state can be achieved in 6 to 10 seconds. The time to boot-up from standby or sleep, however, only takes 1 or 2 seconds, since the memory of the system has been saved (column 5, lines 17-23).

Kirkhart, Amano, and Gillespie are analogous because they are from the same field of endeavor, namely power control units for vehicle electronic components.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the power control, unlock detection, and ignition detection disclosed in Kirkhart and Amano with the processor state determining section disclosed in Gillespie.

The motivation for doing so would have been to create a power management strategy, which reduces power consumption and boot-up time to facilitate the use of the in-vehicle computer system (Gillespie, column 1, lines 9-14).

5. Claim 4 and new claim 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkhart, in view of Amano, in further view of Hirano (US 4,688,036).

Kirkhart and Amano disclose the power control unit according to claims 1 and 7, but do not expressly disclose the ignition key of the vehicle and the auxiliary battery control section include authentication information for identifying a user of the vehicle,

the vehicle is operable to obtain the authentication information from the ignition key when it is detected that the door is unlocked,

and only when the unlocking detecting section detects that the door is unlocked and the authentication information included in the auxiliary battery control section coincides with the authentication information obtained by the vehicle, the auxiliary battery control section is operable to boot up the computer by starting a power supply from the auxiliary battery to the computer.

Hirano discloses a remote entry device for a vehicle containing a unique code signal that must be sent by the transmitter in order for the receiver to produce a driver signal to process the command (column 3, line 39 to column 4, line 9).

Kirkland, Amano, and Hirano are analogous because they are from the same field of endeavor, namely devices that control power consumption within a vehicle.

At the time of the invention by applicants, it would have been obvious to a person of ordinary skill in the art to combine the power control, unlock detection, and ignition detection disclosed in Kirkhart and Amano with the authentication information disclosed in Hirano.

The motivation for doing so would have been to provide a keyless entry to a vehicle that conserves electric power; by preventing the boot-up of the computer until the correct authentication code has been received (column 2, lines 1-3).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2836

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA



BURTON S. MULLINS
PRIMARY EXAMINER